

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (Canceled).

Claim 10 (Currently Amended): A process for the continuous production of crosslinked fine particles of an addition polymer gel, comprising

copolymerizing a monomer mixture, comprising

- a) one or more water-soluble monoethylenically unsaturated monomers,
- b) from 0.001 to 5 mol% based on the monomers (a) of one or more comonomers containing at least two ethylenically unsaturated groups, and
- c) from 0 to 20 mol% based on the monomers (a) of one or more water-insoluble monoethylenically unsaturated monomers,

wherein the monomers a), b) and c) are present as a 20 to 80% by weight solution in water based on the total amount of a), b), and c), wherein the copolymerizing is carried out in the presence of initiator at from 0 to 140°C by continuously feeding the aqueous solution of the monomers into a mixing kneader having at least two axially parallel rotating shafts having a plurality of kneading and transporting elements to convey the monomer mixture in piston flow from an upstream end of the mixing kneader in the axial direction toward a downstream end of the mixing kneader in the presence of one or more addition polymerization inhibitors under an inert gas.

Claim 11 (Original): The process of claim 10, wherein the monomer solution is conveyed through the mixing kneader with an inert gas.

Claim 12 (Original): The process of claim 10, wherein the aqueous solution of the monomers is fed to the mixing kneader together with an inert gas.

Claim 13 (Withdrawn): The process of claim 10, wherein the inert gas is wholly or partly generated by a chemical reaction in the mixing kneader.

Claim 14 (Withdrawn): The process of claim 13, wherein the inert gas is wholly generated by a chemical reaction in the mixing kneader.

Claim 15 (Original): The process of claim 10, wherein the process is carried out in the presence of water vapor.

Claim 16 (Original): The process of claim 10, wherein not less than 15% of the heat of reaction is removed by evaporation of water.

Claim 17 (Original): The process of claim 10, wherein not less than 25% of the heat of reaction is removed by evaporation of water.

Claim 18 (Original): The process of claim 10, wherein not less than 45% of the heat of reaction is removed by product discharge.

Claim 19 (Original): The process of claim 10, wherein not less than 55% of the heat of reaction is removed by product discharge.

Claim 20 (Original): The process of claim 10, wherein not less than 50% of the total heat of reaction is removed by product discharge and water evaporation.

Claim 21 (Original): The process of claim 10, wherein not less than 70% of the total heat of reaction is removed by product discharge and water evaporation.

Claim 22 (Original): The process of claim 10, wherein not less than 90% of the total heat of reaction is removed by product discharge and water evaporation.

Claim 23 (Original): The process of claim 10, wherein the fraction of heat removed by evaporation of water from the reaction mixture is not less than 5% of the heat of reaction and the fraction of heat removed by product discharge is not less than 25% of the heat of reaction and the remainder of the heat is removed via cooling of the reactor walls.

Claim 24 (Original): The process of claim 10, wherein no heat is removed via cooling of the reactor walls.

Claim 25 (New): The process of claim 10, wherein the axially parallel rotating shafts of the mixing meter counter-rotate during the feeding.

Claim 26 (New): The process of claim 10, wherein the axially parallel rotating shafts of the mixing meter comprise a combination of kneading and transporting elements.

Claim 27 (New): The process of claim 10, wherein the axially parallel rotating shafts of the mixing meter comprise one or more disk segments in a propeller fashion.

Claim 28 (New): The process of claim 10, wherein the axially parallel rotating shafts of the mixing kneader comprise one or more close-clearance mixing bars.

Claim 29 (New): The process of claim 10, wherein the axially parallel rotating shafts of the mixing kneader comprise at least one of an L-shaped or U-shaped attachment.

Claim 30 (New): The process of claim 10, wherein the residence time of the monomer mixture in the mixing kneader is less than 30 minutes.

Claim 31 (New): The process of claim 10, wherein the residence time of the monomer mixture in the mixing kneader is less than 20 minutes.

Claim 32 (New): The process of claim 10, wherein the residence time of the monomer mixture in the mixing kneader is less than 10 minutes.

Claim 33 (New): The process of claim 10, wherein the residual monomer of the additional polymer gel is less than 0.15% by weight.

Claim 34 (New): The process of claim 10, wherein the residual monomer of the additional polymer gel is less than 0.25% by weight.

Claim 35 (New): The process of claim 10, wherein the residual monomer of the additional polymer gel is less than 0.30% by weight.

BASIS FOR THE AMENDMENT

Claims 10-35 are active in the present application. Claims 10-12 and 15-35 are currently under active prosecution. Claims 13 and 14 are non-elected claims presently withdrawn from prosecution pending rejoinder. Independent Claim 10 is amended herein to state that the kneader conveys the monomer mixture with piston flow. Support for the amendment is found inherently throughout the specification as demonstrated by the use of List kneading mixtures which Applicants show work on the principal of piston flow (see further discussion infra regarding the List mixers and their use to provide piston flow). Claims 25-35 are new claims. Support for new Claims 25-27 is found on page 6, lines 38-46. Support for new Claims 28 and 29 is found in the paragraph bridging pages 6 and 7. Support for new Claims 30-32 is found on page 7, lines 38-46. Support for new Claims 33-35 is found in Table 2 on page 13. No new matter is added.